IEA Annexe III: Next Generation Copier Procurement Project
Discussion Points: December 2, 1997 Meeting

Introduction

- More background on the International Energy Agency agreement and technology procurement in the on-line brochures at: http://eff.nutek.se/engelsk
- The technology procurement project is an international effort (Finland, Korea, Netherlands, Sweden, Switzerland, United Kingdom, United States) to build market demand for a highly energy efficient next generation of copiers and to coordinate buyer and seller interests. It is hoped that the project will speed the introduction of new imaging technologies that can be broadly applied throughout the market.
- This project is distinct from the ENERGY STAR copier program and will not drive specifications or purchasing activities for ENERGY STAR products. The ENERGY STAR program will continue to be based on energy efficiency using available technologies, while the procurement project emphasize the introduction of new technologies.
- Meeting goals: introduce project, specifications, plans to manufacturers for discussion.
- Project schedule: the group hopes to launch the request for bids in June 1998 and to allow about 2 years for the development of prototype copiers. In the meantime, the working group is building buyer support for the copier as it will be specified and support to offer publicity and other benefits to all successful participants.

Country Reports

- U.S.: Discussion of Executive Order requiring federal purchasers to specify ENERGY STAR computers, monitors, printers -- current need for improvement of specification and enabling of ENERGY STAR products by the U.S. federal government.
- Switzerland: Question of how the Swiss program *Energy 2000* regards this project and whether there are perceived conflicts -- Energy 2000 is a Supporter of the copier procurement and considers the two projects to be complementary.
- Netherlands: Novem (Dutch Agency for Energy and Environment) is sponsoring a conference on efficient use of electricity in buildings, with an emphasis on office equipment to be held in June 1998.

Draft Specifications

- Clarification of Targets 1 and 2: The draft specifications include two sets of specifications. Target 1 is a long-term (perhaps 5-years) goal, and Target 2 is viewed as more achievable in a shorter time period.

Zero Energy Standby Mode

- Does this really mean zero? The specifications call for zero energy use for the fuser in standby mode, though some standby energy allowance is made for electronics and maintenance functions.

- How is Standby defined and how does it compare to low-power or energy-saver modes? The intention of the procurement is to see the introduction of a medium-speed copier that immediately (or nearly immediately) enters a near-zero power state after completing a copying job, and is nearly instantly ready to make copies for the next job, regardless of timing. This should eliminate the need for several levels of energy saving modes or even an off mode.
- Can manufacturers meet the specifications by offering several options of different modes and recovery times? The specifications are designed to require only a single low-power standby mode that would not be disabled or changed by end users. The procurement group will consider manufacturers' suggestions for reasonable tradeoffs between low standby energy consumption and fast recovery/ready time.
- Zero Energy Standby Mode provides a clear distinction between this procurement project and the ENERGY STAR Program.
- Advanced toners could help reach lower-energy fusing and standby modes, but it will take more time than allowed by the procurement (currently thought to be 2 years) to develop and use new toner technologies.

Paper Handling

- A default duplex setting could increase the price of the copier.
- Many customers do not want a default duplex setting
- To achieve the desired opacity for duplexing and allow for recycled-content, the project will probably not recommend papers lighter than 65g/m^2 (17 lb).
- Maximum recycled-content recommendations, in order to achieve the greatest energy efficiencies in paper manufacturing, should be 25% post-consumer content.
- To make it easy for end users to duplex as often as possible, simple, easy-to-use controls are essential. Some common elements in the control panel -- allowing users know where to find specific features regardless of brand -- might be worth discussing.

Recovery Time

- The critical issue from the customers' perspective is time to first copy. This is a standard specification included in buyers' guides and is recognized by consumers. It might be more appropriate to specify time to first copy than recovery time, which can be hard to define.
- Recovery time, if defined as time to first copy, should fit within the range that users currently experience (average of 4 – 6 seconds).
- If higher energy consumption in the standby state were allowed, manufacturers would be able to speed recovery time/time to first copy; current technologies allow for fast recovery times, but use significant energy.

Digital Features

- Will the specifications define exactly which multi-function aspects should be included? The copier procurement working group will ask leading buyers about their preferences for network-capable and multiple functions. The specific functions to be included should be determined by typical market demand for machines in the medium-speed range.

- Buyers of printers might offer insights into connectivity priorities.

Counters

- Purpose of counters: To allow companies to base internal accounting/charging – using either key cards or account number systems – on number of sheets supplied rather than simply on images. This type of system would include all consumables in the charges to end users (or internal divisions, or clients), encouraging efficient paper use. At the very least, counters could be used to make it easy to track their duplex rates over time. Note: These counters are not necessarily the counters used to determine "click charges" or dealer service fees.
- Should manufacturers also supply counters for each type of paper used? The working group will inquire of buyers exactly which information would be of interest.

Image Quality, Price

- The draft specifications do not cover image quality and price – what is the intent of the procurement? Manufacturers might be able to reduce image quality to achieve a fast recovery time, but that is not the intent of the project. Foremost, this project is designed to build strong energy efficiency specifications into a high quality copier, not to sacrifice the user's experience or to price the machine out of a reasonable range. Although the first round of leading buyers will be committed to purchasing the copier as specified, the technology will not achieve long term market success unless it meets the basic requirements for any copier – good image quality at an affordable price. The jury will not award a copier that has little chance for market success based on price or performance.
- The final specifications or procurement document will provide some guidance on price and performance levels, but will not provide specific prices or resolution. In the medium-speed copier market, there is a range of image quality, price, and service options. Manufacturers who participate in the procurement should expect to offer a copier that is comparable to, or exceeds, its own (digital) products in terms of overall price and quality.

Test Procedures

Energy Test

- The ASTM test is acceptable for an energy test, but may not be accepted outside the United States.
- If a simplified test were used, it would need to be repeated over sufficient time to cover oscillations in energy consumption.

In-House vs. Third-Party Testing

- Manufacturers prefer in-house testing. Many of their facilities are ISO-certified, and they have all the requisite equipment and can provide the appropriate test conditions. Shipping prototypes to third-party test facilities would involve considerable expense, possible damage to the equipment, and would require technical assistance (no technical data published on the prototypes).

- In-house testing can be considered valid, as test results will be published and validated when the copiers are commercialized. No copier manufacturer would falsify test results for this reason.

Procurement Process

- Are there financial incentives planned for buyers (e.g., credits/rebates)? The procurement project is designed mainly to determine whether market demand alone can lead to the early introduction of energy efficient technologies. It is possible that some supporters (utilities, etc) might offer financial incentives, but this is not a major plan of the project. Some regions offer tax credits to purchasers of energy-efficient equipment.

Final Comments and Next Steps

- To determine whether the significant R&D commitment is warranted for this project, manufacturers would like to see the greatest possible commitment of leading buyers, including specific numbers of purchases or revenues committed. There also needs to be assurance that this commitment will still be valid when the copier is marketed, despite potential organizational changes within buying companies.
- Educating buyers to have them consider the life cycle cost of the copier is essential.
- Pricing of all digital copiers is difficult and will need to be discussed further.